Cedar River Instream Flow Commission
Final Minutes

SPU Water Quality Lab

March 7, 2012

Organizations/Members Present:

- Seattle Public Utilities -- Tom Fox, Rand Little, Karl Burton
- U.S. Army Corps of Engineers -- Larry Schick
- Muckleshoot Tribe – Holly Coccoli
- Washington Department of Fish and Wildlife -- Peggy Miller
- Washington Department of Ecology -- Buck Smith
- NOAA Fisheries – Randy McIntosh
- US Fish and Wildlife Service -- Tim Romanski
- Guests:
  USFWS -- Roger Peters
  SPU -- Cyndy Holtz
  King County DNR&P -- Jon Hansen

I. Call to Order: Tom called the meeting to order at 9:42 AM.

II. Approval of Agenda: Approved as presented.

III. Approval of Draft Minutes: Draft minutes from February were approved as presented.

IV. News and Notes: Tom said that there has been no reply from King County regarding their continued participation in the IFC. The IFC agreed that King County's participation in the review and development of the Peak Flow Adaptive Management Monitoring Plan was important.

V. Real Time Water Management:

Hydrologic Conditions for Tolt and Cedar: Chester Morse Reservoir elevation is approximately 1553' and spilling to restore the flood pocket. During the last high flow event, the upper watershed received over 1" of rain after the reservoir was full. The peak flow occurred on February 22nd when flows at Renton reached approximately 2700 cfs. USGS gages showed that there was not a lot of accretion flow below Landsburg as compared to the January flood event.

Releases from the reservoir did not contribute to the actual peak because regulated releases began after the peak as did uncontrolled flows through the service spillway (notch). SPU was able to maintain flows below the peak level as part of the effort to spill and restore the flood pocket. Flows have been maintained between 2,000 and 2,400 cfs since the peak. Buck asked Tom for the flow threshold by which property damage begins to occur in the basin below Landsburg. Tom said that flows of 4200 cfs and beyond have the potential to damage property. In the February event, the reservoir elevation reached elevation 1559.1'. Uregulated spill through the service spillway begins at elevation 1557'. Elevation 1568'is the maximum elevation that can be reached before concerns about dam safety require SPU to open emergency gates so that releases match inflows to the reservoir. SPU has had to open the emergency gates only twice in recent years, once in 1990 and once in 2009. The probable maximum flow (PMF) for the Cedar River is 70,000 cfs although recorded flows for the basin have never approached anywhere near that level. The biggest flood on record for Western Washington was recorded in 2007 when the Chehalis Basin received 10" of rain in 10 hours and 14" of rain in 24 hours. During this event, the Chehalis River reached 67% of its estimated PMF.

Since February 22nd, the watershed has received a large amount of snow. The initiation of refill may be delayed if future weather conditions provide substantial precipitation. The current flood pocket target is between 1548' and 1549', and when the target is reached refill will likely begin with the objective to refill by mid-June. After refill, the plan is to continue capturing water in order to remain filled as long as possible. Last year, Chester Morse was full late into the year. In 2011, the reservoir elevation was 1561' on August 15th. Snowpack is currently between 120% and 130% of normal in the Cedar and Tolt watersheds. Flows below Landsburg are relatively high (below diversion 1360 cfs, Renton 1600 cfs), a pattern that will continue for at least another 5 days because of the expectation of another storm system arriving this weekend.

As we move into the steelhead and trout spawning season, elevated flows will likely increase the probability that fish will spawn in areas that can be vulnerable to dewatering later in the year. However, high flows like these can also serve to discourage the initiation of spawning so the risk of shallow redds may be buffered in the short term. Karl will perform the 1st redd survey for spring spawners as soon as the flows subside to levels that are safe for rafting.

There were no downramping events since the last meeting. However, there was an anomaly in the downramping graph caused by a log getting stuck in the spillway, which blocked flow and backed up water upstream of the log. When the log shifted, there was a spike in flow as the backed up water was released. The 8-week moving average for consumption was below average for most of February and has only recently come up to match 2011 levels. Tom said that

much of the lowered demand comes from conservation efforts and new plumbing codes requiring low flow toilets, showers and washing machines. Cumulative water consumption for 2012 is projected to be higher than last year. The estimated de-regulated flow for February's peak flow event was 8500 cfs as compared to an actual peak flow of 2700 cfs. Estimated unregulated flows were lower than actual flows for all days in February except three (February 21st-February 23rd).

Lake Washington: The elevation of Lake Washington is currently at 20.4'and refill is in progress. The Corps is continuing construction activities around the locks apron in an effort to control the erosion below the locks. They are filling the lake slower than usual for this time of year but, after the erosion control construction is complete, refill rate will increase until it has met the normal refill curve for the lake. The fish ladder is closed for short periods as necessary for setting up or moving the rock barge scheduled approximately 2 days per week.

***Fish Update*:** Rand reported that Kelly told him that sockeye fry with yolk sacs comprised 10% of outmigrant fry during the recovery period of elevated flows after the February peak event. By comparison, the January event had 60% to 70% of fry showing yolk sacs during the period of peak flow. Crews typically see no fry with yolk sacs during periods when flows are below redd scour thresholds.

Forecasts and Water Supply Outlook: Larry reported that the short term forecast is calling for relatively warm weather combined with some rain for the next couple of days. Temperatures will cool over the weekend with some snow accumulation in the mountains with more wet weather in the lowlands well into the middle of next week. The medium term forecast is calling for cooler and wetter than normal weather in March and April. La Nina influence typically wraps up in March or April but we could still experience a cool spring and late snowmelt like last year. Forecasters are expecting a neutral year next year but it is still too early to tell and we will need to wait until August to get a better read on the ENSO weather pattern for next winter.

VI. Supplemental Studies:

***Multiscale Juvenile Chinook Salmon Habitat Electivity Study*:** Roger Peters presented his final chapter of the juvenile Chinook habitat electivity study covering meso and macrohabitat. He also reviewed the other chapters in his study and the methodologies used for model development and model predictions. Roger asked the IFC to provide comments on the entire report within the next 6 weeks. He said he would probably need an additional month or so to address the comments and complete the report.

***Otolith Study*:** The IFC discussed the recent findings and the potential for further work on this project. IFC members agreed that the work so far has shown that lake reared fish survive to provide substantial input to adult returns. IFC members weren't sure whether a continuation of this study was prudent because the potential for additional learning opportunities is uncertain. Additional analyses could verify the relative survival rates (lake reared vs. river reared) that were shown to be comparable between 2002 and 2003 broodyears or further study could show that there is more variation than what was observed previously. Karl suggested that Nick present a detailed proposal as he did for the last phase of the study. The IFC did not come to a decision on how they wanted to proceed.

Downstream Habitat Program and Rainbow Bend Levee Removal: Cyndy gave a detailed overview of SPU's Downstream Habitat Program which is part of the Cedar River HCP. Cyndy outlined the program's objectives, costs and funding sources as well as statistics showing what has been spent and what remains from each funding source. The City decided early on to emphasize habitat acquisition and preservation as opposed to engineered habitat projects. Land acquisition has been successful and Cyndy showed the locations of the parcels that have been purchased to date. After purchase, terrestrial structures are removed, roads are torn out and the soil beneath is treated for compaction and replanted. SPU has been partnering with The Friend's of the Cedar River and Forterra (Previously Cascade Land Conservancy) to remove knotweed and other invasive plants and replant with conducive native species.

Cyndy then introduced Jon Hansen from King County who manages the Rainbow Bend habitat restoration project, a cooperative project between SPU and KC. Jon outlined the different alternatives for the project and the logic behind the chosen option. The county will remove the levee on the upstream side of the purchased land and let the river do most of the work to shape a new channel. The mainstem is expected to migrate away from Maple Valley Highway and the current main-stem channel is predicted to become a side-channel. Jon said that excavation at the upstream end of the project is designed to allow water into the floodplain at a flow of 500 cfs. Karl asked whether there would be a fish monitoring effort after the project was complete to document fish use and to identify potential problems that could impact spawning, incubating and rearing fish. Jon said that there would be a fish monitoring plan but that the details had not all been sorted out yet. Jon said that there should be an opportunity for input on the monitoring program.

VII. April's IFC Meeting:

1) Discussion and comments regarding Roger's juvenile Chinook study.
2) Discussion with USGS regarding the Peak Flow Adaptive Management Study's monitoring plan.

VIII. Meeting adjourned at 1:00 PM